Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application, please amend the claims as follows:

Listing of Claims:

1. (Currently Amended) A mixture for screening radiation, comprising:
   a) at least 26 wt.% of gadolinium, said gadolinium being in elemental form, as a compound, and/or as an alloy, wherein if the gadolinium is in the form of a compound, then said compound is gadolinium(III) oxide (Gd_2O_3);

   b) at least 10 wt.% of one or more elements chosen, independently of each other, from the group consisting of ~~barium,~~ indium, tin, molybdenum, niobium, tantalum, zirconium and tungsten, wherein the one or more elements are in elemental form, as a compound, and/or as an alloy and wherein the concentration of tungsten, if tungsten is present, is at least 10 wt.% with respect to the total amount of the mixture.

2. (Previously Presented) The mixture according to Claim 1, further comprising: c) 0 to 64 wt.% of one or more further elements chosen, independently of each other, from the group consisting of bismuth, lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, terbium, dysprosium, holmium, erbium, thulium, ytterbium and lutetium, wherein the one or more further elements are in elemental form, as a compound, and/or as an alloy.

3. (Previously Presented) The mixture according to Claim 1, wherein a maximum of 50 wt.% of tin, with respect to the total amount of the mixture is present.

4. (Previously Presented) The mixture according to Claim 1, wherein the one or more elements of component b) have a complementary radiation attenuating characteristic in the range 10 to 600 keV.

5. (Original) The mixture according to Claim 1 comprising at least 35 wt.% of gadolinium and at least 20 wt.% of tungsten.

6. (Previously Presented) The mixture according to Claim 1 having a specific density in the range of 4.0 to 13.0 g/cm^3.

7. (Previously Presented) The mixture according to Claim 1, wherein the mixture comprises particles having an average particle diameter in the range 0.1 to 200 µm.

8. (Previously Presented) The mixture according to Claim 2, wherein the one or more elements of b) and c) are in the form of alloys and/or compounds chosen, independently of each other, from the group consisting of oxides, carbonates, sulfates, halides, hydroxide, tungstates, carbides and sulfides.

9. (Withdrawn – Previously Presented) A process for preparing the mixture according Claim 1, comprising the steps of: drying components a), b) and c) in a temperature range of 20 to 500°C; and screening and mixing components a), b) and c) for 5 minutes to 24 hours.

10. (Cancelled)

11. (Previously Presented) A substance for screening radiation comprising:
    a) the mixture according to Claim 1; and
    b) at least one polymer.

12. (Previously Presented) The substance according to Claim 11, further comprising one or more additive.

13. (Previously Presented) The substance according to Claim 11, wherein the polymer is chosen from the group consisting of rubbers, thermoplastic materials, polyurethanes, and mixtures thereof.

14. (Previously Presented) The substance according to Claim 11, wherein the degree of filling is less than 80 wt.%.

15. (Previously Presented) A substance for screening radiation comprising:
    a) 5 to 85 wt.% of rubber, thermoplastic material or polyurethane,
    b) 10 to 80 wt.% of the mixture according to Claim 1, and
    c) 5 to 20 wt.% of other additives.

16. (Withdrawn - Previously Presented) A process for preparing the substance according to Claim 11, comprising reacting the polymer with the mixture.

17. (Withdrawn - Previously Presented) The process according to Claim 16, wherein the polymer is a rubber and wherein the reacting step comprises compounded the rubber with the mixture.

18. (Withdrawn - Previously Presented) The process according to Claim 16, wherein the polymer is a thermoplastic material and wherein the polymer is mixed with the mixture.

19. (Withdrawn - Previously Presented) The process according to Claim 16, wherein the polymer is polyurethane and the starting materials for the polyurethane are mixed directly with the mixture and then polymerized.

20. (Previously Presented) A product comprising the substance according to Claim 11.